

WHAT IS CLAIMED IS:

- 1 1. A method for selecting dominant multi-media cues from a number of video
2 segments, comprising the steps of:
3 calculating a multi-media information probability for each frame of the video
4 segments;
5 dividing each of the video segments into sub-segments;
6 calculating a probability distribution of multi-media information for each of the
7 sub-segments using the multi-media information for each frame;
8 combining the probability distribution for each sub-segments to form a combined
9 probability distribution; and
10 selecting the multi-media information having the highest combined probability in
11 the combined probability distribution as the dominant multi-media cues.
- 1 2. The method of claim 1, wherein the video segments are selected from a group
2 consisting of commercial segments and program segments.
- 1 3. The method of claim 1, wherein the dividing video segments into sub-segments is
2 performed using close caption information included in the video segments.
- 1 4. The method of claim 1, wherein the combining the probability distribution for
2 each sub-segments is performed by the operation selected from a group consisting of an
3 average or a weighted average.

1 5. The method of claim 1, wherein the combined probability distribution is formed
2 from probability distributions of sub-segments of multiple programs.

1 6. The method of claim 1, which further includes initially selecting multi-media cues
2 characteristic of a given TV program type or commercial.

1 7. A method of segmenting and indexing video, comprising the steps of:
2 selecting program segments from the video;
3 dividing the program segments into program sub-segments; and
4 performing genre-based indexing on the program sub-segments using multi-media
5 cues characteristic of a given genre of program.

1 8. The method of claim 7, wherein the selecting program segments is performed
2 using multi-media cues characteristic of a given type of video segment.

1 9. The method of claim 7, wherein the dividing the program segments into program
2 sub-segments is performed according to closed caption information included in the
3 program segments.

1 10. The method of claim 7, wherein the genre-based indexing includes:
2 comparing the multi-media cues characteristic of a given genre of program to
3 each of the program sub-segments; and

4 inserting a tag into one of the program sub-segments if there is a match between
5 one of the multi-media cues and sub-segments.

1 11. The method of claim 7, which further include performing object-based indexing
2 on the program sub-segments.

1 12. A method of storing video, comprising the steps of:
2 pre-processing the video;
3 selecting program segments from the video;
4 dividing the program segments into program sub-segments;
5 performing genre-based indexing on the program sub-segments using multi-media
6 cues characteristic of a given genre of program to produce indexed program sub-
7 segments; and
8 storing the indexed program sub-segments.

1 13. The method of claim 12, wherein the genre-based indexing includes:
2 comparing the multi-media cues characteristic of a given genre of program to
3 each of the program sub-segments; and
4 inserting a tag into one of the program sub-segments if there is a match between
5 one of the multi-media cues and sub-segments.

1 14. The method of claim 12, which further include performing object-based indexing
2 on the program sub-segments.

1 15. A device for storing video, comprising:
2 a pre-processor for pre-processing the video;
3 a segmenting and indexing unit for selecting program segments from the video,
4 dividing the program segments into program sub-segments and performing genre-
5 based indexing on the program sub-segments using multi-media cues characteristic of a
6 given genre of program to produce indexed program sub-segments; and
7 a storage device for storing the indexed program sub-segments.

1 16. The method of claim 15, wherein the genre-based indexing includes:
2 comparing the multi-media cues characteristic of a given genre of program to
3 each of the program sub-segments; and
4 inserting a tag into one of the program sub-segments if there is a match between
5 one of the multi-media cues and sub-segments.

1 17. The method of claim 15, wherein the segmenting and indexing unit further
2 performs object-based indexing on the program sub-segments.